



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE

United States Patent and Trademark Office

Address: COMMISSIONER FOR PATENTS

P.O. Box 1450

Alexandria, Virginia 22313-1450

www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/722,314	11/25/2003	Stephen Paul Belair	32419	9299
26327 7590 06/11/2008 THE LAW OFFICE OF KIRK D. WILLIAMS PO BOX 61538 DENVER, CO 80206-8538				
EXAMINER				
ZHE, MENG YAO				
ART UNIT		PAPER NUMBER		
2195				
MAIL DATE		DELIVERY MODE		
06/11/2008		PAPER		

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/722,314

Applicant(s)

BELAIR ET AL.

Examiner

MENGYAO ZHE

Art Unit

2195

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 24 February 2008.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-19 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-19 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SF/ICE)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

1. Claims 1-19 are presented for examination.

Claim Rejections - 35 USC § 101

2. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

3. Claims 8-11 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter.

i) Claims 8-11 are rejected under 35 U.S.C. 101 because the claimed invention are directed to system claim, but appearing to be comprised of software alone without claiming associated computer hardware required for execution. The following link on the World Wide Web is for the United States Patent And Trademark Office (USPTO) policy on 35 U.S.C. §101.

http://www.uspto.gov/web/offices/pac/dapp/opla/preognotice/guidelines101_20051026.pdf

Although on Pg 8 of applicant's remark, the applicant had invoked U.S.C. 112, sixth paragraph, claims 8-11 are still rejected in light of Pg 11 of the specification. The applicant merely mentioned that the gang member MAY include memory, which is not a definition of what a gang member is.

Claim Rejections - 35 USC § 112

4. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

5. Claims 1-19 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

A. The following claim languages are unclear and indefinite:

i) Claim 1, it is uncertain what is meant by "an approximate...response" <i.e. a member responding to the message after 1 micro-second, 1 second or 10 minutes can all be considered as an approximate response.>

Claims 8 and 12 have the same deficiencies as claim 1 above.

Claim Rejections - 35 USC § 102

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

7. Claims 1, 8, 12 are rejected under 35 U.S.C. 102(e) as being anticipated by Chen, Pub. No. 2003/0097425 (hereafter Chen).

8. Chen teaches a method for gang scheduling, the method comprising:

a first member of a gang recognizing an event, the gang including the first member and a plurality of other members (Fig 2, units 210, 240, etc);

in response to said recognition of the event, the first member sending a multicast dispatch message to the plurality of other members, the multicast dispatch message including an indication of a gang priority level (Para 46, Para 87);

the plurality of other members receiving the multicast dispatch message (Para 46);

in response: each particular member of the plurality of other members raising a priority level of a process associated with said each particular member to that corresponding to the gang priority level in order to cause an approximate or actual simultaneous response to the gang dispatch message on each of the plurality of other gang members (Para 87: when a device receives a multicast message with 0 priority, it will perform an operation, as such, 0 priority clearly is the highest priority. In order to perform an operation after receiving the multicast message, the device inherently has to raise the priority of the responding process to the zero priority, which is the highest priority possible, to ensure the device to responds.)

then performing an operation associated with the multicast dispatch message in said process at the gang priority level (Para 87: the nature of multicasting ensures all the receiving devices in the subnet, which corresponds to the gang, will execute the associated process simultaneously.).

Claim Rejections - 35 USC § 103

9. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

10. Claims 1-19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sikdar, Patent No. 6,724,729 (hereafter Sikdar) in view of Boudnik et al., Patent No. 7,207,040 (Boudnik).

11. Sikdar and Boudnik were cited in the previous office action.

12. As per claims 1 and 12, Sikdar teaches the invention substantially as claimed including a method for gang scheduling, the method comprising:

a first member of a gang recognizing an event, the gang including the first member and a plurality of other members (Column 9, lines 60-65)

in response to said recognition of the event, the first member sending a multicast dispatch messages to the plurality of other members for controlling members in a distributed system (Column 1, lines 63-66);

the plurality of other members receiving the multicast dispatch messages causing an approximate or actual simultaneous response to the gang dispatch message on each of the plurality of other gang members (Column 1, lines 25-28; Column 7, lines 55-65);

then performing an operation associated with the multicast dispatch message at the gang priority level (Column 2, lines 5-9).

Sidkar does not teach the multicast dispatch message further comprises an indication of a gang priority level and in response to the message, each member of the plurality of other members raising a priority level of a process associated with said each particular member to that corresponding to the gang priority level;

However, Boudnik teaches a change priority message that may be sent to tasks to change the tasks' priority level (Column 2, lines 35-60) for the purpose of priority control on distributed computing environments.

It would have been obvious to one having ordinary skill in the art at the time of the applicant's invention to modify the teachings of Sidkar where a multicast message is sent to a plurality of gang members in order to cause an approximate response to the message on each of the gang members with the specifics of letting the message to include a priority level so that the receiver will raise its priority level to the priority indicated in the message, as taught by Boudnik, such that the multicast message

contains a gang priority level and all the gangs receiving this message will each raise its priority level to the priority level indicated in the message, because it allows for priority control on distributed computing environments.

13. As per claims 2 and 13, Boudnik teaches wherein said performing the operation by said each particular member includes generating one or more results (Column 2, lines 46-47; Column 11, lines 51-54);

Sikdar teaches comprising said each particular member communicating said one or more results to the first member (Fig 6 and Column 16, lines 65-Column 17, line 1).

14. As per claims 3 and 14, Sikdar teaches wherein said operation includes collecting one or more statistics values and said one or more results includes said one or more statistics values (Column 16, lines 65-Column 17, line 1).

15. As per claims 4 and 17, Sikdar teaches wherein the multicast dispatch message includes a set of routing updates, and said operation includes updating a data structure with the set of routing updates (Column 10, lines 5-10).

16. As per claims 5 and 18, Sikdar does not specifically teach wherein the multicast dispatch message includes a fault indication, and said operation includes updating configuration or routing information in response to the fault indication. However, because the analysis instrument system disclosed by Sikdar is used for testing

purposes, which can be used as part of error or fault analysis, it would have been obvious to one having ordinary skill in the art at the time of applicant's invention to include in the test message a fault indication so that the analyzer knows what to test for, measure and characterize (Column 1, lines 9-30).

17. As per claims 6 and 19, it is rejected with similar reasoning as claim 5 and moreover, the operation of providing responses to the appropriate control unit corresponds to the operation is a corrective measure associated with the fault (Sikdar, Column 16, lines 65-Column 17, line 1).

18. As per claims 7 and 15, although Boudnik in view of Sikdar does not teach raising the priority level of the first member to the gang priority level before said sending the multicast dispatch message. However, it would have been obvious to one having ordinary skill in the art at the time of the applicant's invention to raise the priority of the first member who is responsible for sending the broadcast message so that the task of sending the message may be performed earlier if not first in respect to other less important tasks such that the rest of the analyzer in the system may all be synchronized to perform their tasks.

19. As per claim 8, it is rejected under Boudnik in view of Sikdar with the same reasoning as claim 1. Moreover Sikdar teaches the additional limitation of means for maintaining gang membership of a scheduling gang, said gang membership including a

Art Unit: 2195

plurality of other gang members (Fig 1: analyzer and the control unit are all part of the gang; Column 1, lines 60-Column 2, lines 10: it is inherent the system knows what analyzer is part of the system since it can send messages to analyzers selectively.)

20. As per claim 9, Sikdar teaches wherein said means for dispatching and communicating gang dispatch messages includes means for performing reliable group communication (Column 1, lines 60-Column 2, lines 10; Fig 6 and Column 16, lines 65-Column 17, line 1).

21. As per claim 10, Sikdar teaches wherein said means for reliable group communication includes means for acknowledging less than all of a series of gang dispatch messages (Column 4, lines 55-65: time-stamps corresponds to acknowledging.).

22. As per claim 11, Sikdar teaches wherein said means for reliable group communication includes means for performing immediate and delayed acknowledgement of received gang dispatch messages (Column 4, lines 55-65; Column 5, lines 9-14).

23. As per claim 16, Sikdar teaches wherein each of the plurality of other members of the gang are included on different line cards of a packet switching system (Column 7, lines 28-54).

Response to Arguments

24. Applicant's argument filed on 2/24/2008 in regards to claims 1-19 have been fully considered but are not persuasive.
25. In the remark applicant argued in substance that:
- i) Pg 11, Sikdar in view of Boudnik does not teach raising a priority level of a process associated with said each particular member to that corresponding to the gang priority level in order to cause an approximate or actual simultaneous response to the gang dispatch message on each of the plurality of other gang members.
 - ii) Pg 11, Boudnik teaches away from synchronization.
 - iii) Pg 12, Sikdar does not teach claims 2 and 13.
 - iv) Pg 12, Sikdar does not teach routing update.
 - v) Pg 12, Sikdar does not teach fault indication and responding to the fault.
 - vi) Pg 12, Sikdar does not teach reliable multicast communication including acknowledgement.
26. The Examiner respectfully disagree with the applicant, as to point:
- i) Sikdar teaches sending a multicast message in order to synchronize all the gang members. Even though Sikdar does not specifically teach that the message includes a priority level for the gang members to set themselves to, Boudnik teaches a way for sending messages that includes the priority for the receiving task to set itself to. Therefore, it would have been obvious to combine the

teachings of the two to arrive at sending a multicast message including a priority level to all gang members so that each gang member can set its priority to the priority level in the multicast message.

ii) The applicant only claimed for approximate response to the gang dispatch message. It is ambiguous as to how much lag between the responses is considered to be an approximate response. More importantly, the evidence provided by the applicant, namely Col. 2, lines 21-36, that is suppose to show Boudnik is teaching away from synchronization merely mentions that Boudnik's invention is suppose to reduce resource contention in parallel tasks. This has nothing to do with whether if the parallel tasks are synchronized or not.

iii) Applicant's arguments fail to comply with 37 CFR 1.111(b) because they amount to a general allegation that the claims define a patentable invention without specifically pointing out how the language of the claims patentably distinguishes them from the references.

iv) Because the applicant never specified what is meant by routing update, the Examiner interpreted it to mean any information that is directed to where the message should get routed to. Therefore, in Column 10, lines 5-10 of Sidkar, the destination address is the routing update since it is information on where the message should be send to.

v) The Examiner had already admitted to the fact that Sidkar does not specifically teach indication and responding to the fault. However, Sidkar does teach running tests and analysis of a system (Column 1, lines 15-29). Since tests and analysis

are often used for fault detection and correction at the time of the applicant's invention, it would have been obvious to use Sidkar's invention in the field of fault detection and correction.

vi) The Applicant never specified how the acknowledgement works. Therefore, the Examiner interprets Sidkar's time stamping the received message as a way of acknowledging that a message has been received (Column 14, lines 40-60).

Conclusion

27. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to MENGYAO ZHE whose telephone number is (571)272-6946. The examiner can normally be reached on Monday Through Friday, 7:30 - 5:00 EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Meng-Ai An can be reached on 571-272-3756. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Meng-Ai An/
Supervisory Patent Examiner, Art Unit 2195